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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,119	04/02/2001	Craig W. Hodgson	LITTONP.002C1	9187

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PATTI & BRILL
ONE NORTH LASALLE STREET
44TH FLOOR
CHICAGO, IL 60602

EXAMINER

CHANG, AUDREY Y

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,119

Applicant(s)

HODGSON ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on November 13, 2002, which has been entered as paper number 14.
- By this amendment, the applicant has amended claims 1, 4, 13, 17-18, 21-23, has canceled claim 2 and has newly added claims 25-30.
- Claims 1, and 3-30 remain pending in this application.
- The rejections of claims 1-3, 8-19 and 22-24 under 35 USC 112, *first paragraph*, set forth in the previous Office Action are *withdrawn* in response to applicant's amendment.
- The rejections to claims 4-8, 13, 20 and 21 under 35 USC 112, *second paragraph*, set forth in the previous Office Action are *withdrawn* in response to applicant's amendment.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1, and 3-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 1, 4 and 21 have been amended and the amendments make the claims fail to provide structural relationships among the distribution fiber lines, the return fiber lines and the sensor groups.

This lacking of the structural relationships makes the claims *incomplete* and fails to give definite scopes of the claims. Structural relationship phrase such as "each input couplers within one of the said z sensor

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groups being connected to one of the distribution fiber lines and the output couplers within the one sensor group are connected to one or a pair of the return fiber lines” should be added to positively link the cited elements in order to make the claims complete and operable.

The phrases in the claims (claims 1, 4, 21 and 22) concern the coupling ratio of the output couplers and/or the input couplers are confusing and indefinite since it is not clear if these output couplers and/or the input couplers are couplers within a sensor group or not. The specification does not clearly show the coupling ratio of output couplers (or input couplers) is related to each other when the couplers are **not** within the same sensor group. Clarifications are required.

Claims 3, 5-20, and 23-30 inherit the rejection from their respective based claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3-10, 13-20, 21, 22, and 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Giallorenzi (PN. 4,648,083).**

Giallorenzi teaches a conformer *sensor array* using fiber optic transmission wherein the array comprises a plurality of *fiber input lines* (42) serves as the *distribution fiber lines*, connecting to a plurality of *light sources*, a plurality of *fiber optic output lines* (50) serves as the *return fiber lines*, and a plurality of *sensor groups* (39), each comprises a plurality of *sensors* (38), *input couplers* (46) and *output couplers* (52) for connecting the sensors to the distribution fiber lines and return fiber lines, (please see Figure 3 and columns 3 and 4). Giallorenzi teaches that each of the sensors within a sensor group is

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connected to a different fiber input lines or distribution fiber lines and the sensors within a sensor group are connected to the same fiber optic output line, (please see Figure 3).

This reference has met all the limitations of the claims with the *exception* that it does not teach explicitly that the number of input fiber lines is 6 and the number of output fiber lines is 16, however such numbers may either be implicitly *implied* by the plurality or N number lines disclosed in the reference or an obvious modification to one skilled in the art for the benefit of providing a sensor array with the desired number of transmission fiber lines. Although this reference does not teach explicitly that the coupling ratios for the input couplers and output couplers are defined with respect to the other input or output couplers however such features are either inherently included or an obvious modification to one skilled in the art for the benefit of providing sensor array with desired fiber lines transmission performance.

Response to Arguments

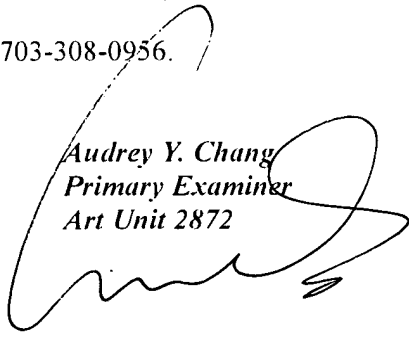
5. Applicant's arguments with respect to claims 1, 3-30 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.
January 17, 2003